

NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION AUTHORIZATION ACT OF 1991

AUGUST 2, 1991.—Ordered to be printed

Mr. BROWN, from the Committee on Science, Space, and
Technology, submitted the following

REPORT

together with

ADDITIONAL VIEWS

[To accompany H.R. 2011 which on April 23, 1991, was referred jointly to the Committee on Science, Space, and Technology and the Committee on Merchant Marine and Fisheries]

[Including cost estimate of the Congressional Budget Office]

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The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof
the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Oceanic and Atmospheric Administration
Authorization Act of 1991".

TITLE I—OCEAN AND COASTAL PROGRAMS

SEC. 101. NATIONAL OCEAN SERVICE.

(a) **MAPPING, CHARTING, AND GEODESY.**—There are authorized to be appropriated to the Secretary of Commerce (hereinafter in this Act referred to as the "Secretary") for carrying out mapping, charting, and geodesy activities of the National Oceanic and Atmospheric Administration (including geodetic data collection and analysis) under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law, not more than \$47,983,000 for fiscal year 1992.

(b) **OBSERVATION AND ASSESSMENT.**—There are authorized to be appropriated to the Secretary for carrying out observation and assessment activities of the National Oceanic and Atmospheric Administration under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law, not more than \$67,827,000 for fiscal year 1992.

(c) **OCEAN AND COASTAL MANAGEMENT.**—There are authorized to be appropriated to the Secretary for carrying out ocean and coastal management activities of the National Oceanic and Atmospheric Administration under title III of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1431 et seq.), the Coastal Zone Management Act of 1972 (33 U.S.C. 1451 et seq.), and any other law, not more than \$41,442,000 for fiscal year 1992. Amounts appropriated pursuant to this subsection shall not be used for activities authorized separately under the Deep Seabed Hard Mineral Resources Act (30 U.S.C. 1401 et seq.).

SEC. 102. OCEANIC AND ATMOSPHERIC PROGRAMS.

(a) CLIMATE AND AIR QUALITY RESEARCH.—

(1) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the Secretary for carrying out climate and air quality research duties of the National Oceanic and Atmospheric Administration, including for interannual and seasonal climate research, long-term climate and air quality research, and the National Climate Program, not more than \$106,695,000 for fiscal year 1992.

(2) **NATIONAL CLIMATE PROGRAM.**—Of the sums authorized under paragraph (1), not more than \$3,700,000 are authorized to be appropriated for the activities of the Regional Climate Centers.

(b) **ATMOSPHERIC PROGRAMS.**—(1) There are authorized to be appropriated to the Secretary for carrying out atmospheric research duties of the National Oceanic and Atmospheric Administration not more than \$37,007,000 for fiscal year 1992, including for research for developing improved prediction capabilities for atmospheric processes, and solar-terrestrial services and research.

(2) Of the sums authorized under paragraph (1), \$3,000,000 for fiscal year 1992 are authorized to be appropriated for the Stormscale Operational and Research Meteorology (STORM) program.

(2) CLIMATE SERVICES SYSTEM MODERNIZATION.—

IMPLEMENTATION PLAN.—The Secretary shall direct the Office of the Chief Scientist of the National Oceanic and Atmospheric Administration to prepare and submit to the Congress, not later than one year after the date of the enactment of this Act, a plan for the implementation of a nationwide climate services system and applied climatology program. Such plan shall include detailed requirements and schedules for the improvement of (A) the timeliness of climate services, (B) the spatial coverage of weather observational networks, (C) the quality control of climate data, (D) access to climate data, (E) the use of climate data, (F) the coordination of Regional Climate Centers with Federal climate centers, and (G) private sector participation in providing climate services.

(2) **FUNDING.**—Of the sums authorized under subsection (a)(1), not more than \$200,000 are authorized to be appropriated for fiscal year 1992 for the purposes of implementing paragraph (1) of this subsection.

(d) **OCEAN AND GREAT LAKES RESEARCH.**—There are authorized to be appropriated to the Secretary for carrying out ocean and Great Lakes research activities of the National Oceanic and Atmospheric Administration under the Act entitled "An Act to define the function and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), the Act entitled "An Act to increase the efficiency and reduce the expenses of the Signal Corps of the Army, and to transfer the Weather Bureau to the Department of Agriculture", approved October 1, 1890 (15 U.S.C. 311 et seq.), the National Sea Grant College Pro-

gram Act (33 U.S.C. 1121 et seq.), and any other law involving those activities, not more than \$38,074,000 for fiscal year 1992.

SEC. 103. PROGRAM SUPPORT.

(a) **ADMINISTRATION AND SERVICES.**—There are authorized to be appropriated to the Secretary for carrying out executive direction and administrative activities of the National Oceanic and Atmospheric Administration (including management, administrative support, provision of retired pay of National Oceanic and Atmospheric Administration commissioned officers, and policy development) under the Act entitled "An Act to clarify the status and benefits of commissioned officers of the National Oceanic and Atmospheric Administration, and for other purposes", approved December 31, 1970 (33 U.S.C. 587-1 et seq.), and any other law involving those activities, not more than \$72,084,000 for fiscal year 1992.

(b) **FACILITIES.**—There are authorized to be appropriated to the Secretary for acquisition, construction, maintenance, and operation of facilities of the National Oceanic and Atmospheric Administration under any law involving those activities, not more than \$9,898,000 for fiscal year 1992.

(c) **MARINE SERVICES.**—There are authorized to be appropriated to the Secretary for carrying out marine services activities of the National Oceanic and Atmospheric Administration (including ship operations, maintenance, and support) under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law involving those activities, not more than \$65,743,000 for fiscal year 1992.

(d) **AIRCRAFT SERVICES.**—There are authorized to be appropriated to the Secretary for carrying out aircraft services activities of the National Oceanic and Atmospheric Administration (including aircraft operations, maintenance, and support) under the Act entitled "An Act to increase the efficiency and reduce the expenses of the Signal Corps of the Army, and to transfer the Weather Bureau to the Department of Agriculture", approved October 1, 1890 (15 U.S.C. 311 et seq.), and under any other law involving those activities, not more than \$8,550,000 for fiscal year 1992.

SEC. 104. NOTICE OF REPROGRAMMING OR OBLIGATION FOR NEW PROGRAM.

(a) **NOTICE OF REPROGRAMMING.**—The Secretary shall not reprogram an amount greater than \$500,000 of funds appropriated for an activity of the National Oceanic and Atmospheric Administration unless, not later than 30 days before the effective date of the reprogramming, the Secretary provides notice of the reprogramming to the appropriate authorizing committees, and the Committee on Appropriations, of the House of Representatives and of the Senate.

(b) **NOTICE OF OBLIGATION FOR NEW PROGRAM.**—The Secretary shall not obligate any amount for a program of the National Oceanic and Atmospheric Administration that is proposed or developed after the date of the enactment of this Act unless, not later than 90 days before the effective date of that obligation, the Secretary provides notice of the obligation to the appropriate authorizing committees of the House of Representatives and of the Senate, including in the notice—

- (1) a description of the program;
- (2) a statement of the purpose and goal of the program; and
- (3) an accounting of expenditures proposed for the program.

SEC. 105. REPORT ON SATELLITE OCEANOGRAPHY.

(a) **IN GENERAL.**—The Committee on Earth and Environmental Sciences of the Federal Coordinating Council for Science, Engineering, and Technology (hereinafter in this section referred to as the "Committee"), in consultation with Federal, academic, and commercial users of remotely sensed data, shall consider and develop detailed findings and recommendations regarding—

- (1) the most urgent current needs of oceanographic researchers within the Federal Government, the academic community, and the private sector, for remote sensing capabilities and remotely sensed data, including findings regarding the present inadequacies in these capabilities and data; and
- (2) the major goals of satellite oceanography for the next 10 years.

(b) **REPORT.**—Not later than 1 year after the date of the enactment of this Act, the Committee shall submit to the House of Representatives and the Senate a report which describes the findings of the Committee. The report shall include recommendations for, or a description of actions being taken toward—

- (1) correcting inadequacies in remote sensing capabilities;
- (2) improving availability of remotely sensed data; and
- (3) achieving the major goals of satellite oceanography developed pursuant to subsection (a)(2).

SEC. 106. REPORT ON SATELLITE CAPABILITIES FOR FISHERIES ENFORCEMENT.

Not later than 6 months after the date of the enactment of this Act, the Under Secretary of Commerce for Oceans and Atmosphere, in consultation with the heads of other Federal agencies, shall prepare and submit to the House of Representatives and the Senate a report describing how current and planned satellite capabilities of the Federal Government can aid in the enforcement of Federal fisheries laws and the implementation of international fisheries conservation programs.

SEC. 107. AUTHORITY TO ACQUIRE REAL PROPERTY AND IMPROVEMENTS IN HAMPTON ROADS, VIRGINIA.

(a) **IN GENERAL.**—The Under Secretary of Commerce for Oceans and Atmosphere may acquire, by exchange or lease-purchase or both, real property and improvements thereto in the area of Newport News-Norfolk, Virginia, for the purpose of consolidating facilities of the National Oceanic and Atmospheric Administration.

(b) **CONDITIONS.**—The authority of the Under Secretary to acquire real property or improvements under subsection (a) shall be subject to the following conditions:

- (1) All actions taken by the Under Secretary to acquire such property or improvements must be in the best interests of the United States.
- (2) In any case in which such acquisition is by lease-purchase—
 - (A) the term of the lease may not exceed 30 years;
 - (B) title to such property or improvements will be transferred to the United States upon expiration of such term; and
 - (C) obligations of funds to carry out such lease-purchase shall—
 - (i) be without regard to section 1341(a)(1)(B) of title 31, United States Code, and section 3733 of the Revised Statutes of the United States (41 U.S.C. 12); and
 - (ii) be treated as budget authority and outlays for a fiscal year only to the extent that expenditures pursuant to such obligations are made in the fiscal year.

SEC. 108. AUDIT OF DAMAGE ASSESSMENT PROGRAM.

(a) **AUDIT REQUIREMENT.**—Not later than January 31 of each of 1991, 1992, 1993, and 1994, the Comptroller General shall submit to the Congress an audit of—

- (1) the Damage Assessment program of the National Oceanic and Atmospheric Administration; and
- (2) the Damage Assessment and Restoration Revolving Fund.

(b) **AUDIT CONTENTS.**—Each audit under this section shall include for the period covered by the audit—

- (1) a statement of all funds appropriated to the Damage Assessment program, including—
 - (A) amounts appropriated directly to the Operations, Research, and Facilities Account, and
 - (B) amounts transferred to that account from the Damage Assessment and Restoration Revolving Fund;
- (2) a statement of funds transferred to the Damage Assessment program through reprogramming of funds from other programs;
- (3) an accounting of the uses of all funds available to the Damage Assessment program, including an accounting of repayments made, if any, to other programs from which funds have been reprogrammed to carry out Damage Assessment program activities; and
- (4) a statement of all deposits into and transfers from the Damage Assessment and Restoration Revolving Fund.

TITLE II—NATIONAL WEATHER SERVICE

SEC. 201. OPERATIONS AND RESEARCH.

(a) There are authorized to be appropriated to the Secretary to enable the National Oceanic and Atmospheric Administration to carry out the operations and research duties of the National Weather Service, \$308,065,000 for fiscal year 1992. Such duties include meteorological, hydrological, and oceanographic public warnings and forecasts, as well as applied research in support of such warnings and forecasts, but do not include duties described in section 202.

(b)(1) The Secretary shall direct the Office of the Chief Scientist of the National Oceanic and Atmospheric Administration to establish an advisory committee of tropical cyclone research experts to make recommendations for Atlantic tropical cyclone research activities and Atlantic tropical cyclone reconnaissance procedures.

(2) The Secretary, working jointly with other agencies as appropriate and utilizing the expertise of the advisory committee established under paragraph (1), shall establish a 5-year program for collecting operational and reconnaissance data, conducting research, and analyzing data on Atlantic tropical cyclones to assist the forecast and warning program and increase the understanding of the causes and behavior of Atlantic tropical cyclones.

(3) Within 120 days after the date of enactment of this Act, the Secretary shall develop and submit to the Congress a management plan for the program established under paragraph (2) which shall include organizational structure, goals, major tasks, and funding profiles for the five year duration of the program.

(c) Of the sums authorized under subsection (a) of this section, \$250,000 for fiscal year 1992 are authorized to be appropriated for the purposes of implementing subsection (b) of this section.

SEC. 202. SYSTEMS ACQUISITION.

(a) There are authorized to be appropriated to the Secretary to enable the National Oceanic and Atmospheric Administration to carry out the public warning and forecast systems duties of the National Weather Service, \$209,725,000 for fiscal year 1992. Such duties include the development, acquisition, and implementation of major public warning and forecast systems.

(b)(1) There are authorized to be appropriated to the Secretary for all fiscal years beginning after September 30, 1992, an aggregate of \$196,956,000, to remain available until expended, to complete the acquisition and deployment of the Next Generation Weather Radar system, and to cover all associated activities (including program management and operations and maintenance through September 30, 1996).

(2) Except as provided in paragraph (3), none of the funds appropriated under paragraph (1) may be obligated until the Secretary certifies to the Congress that—

(A) the radars meet the technical performance specifications included in the system contract as in effect on October 1, 1991;

(B) the system contract is viable, and the Secretary does not foresee any circumstances which would make its fulfillment impossible;

(C) the system software is functional;

(D) the system can be fully deployed, sited, and operational without requiring further appropriations beyond amounts authorized under paragraph (1); and

(E) the Secretary does not foresee any further delays in the system deployment and operation schedule.

(3) If the Secretary does not make a complete certification described in paragraph (2), funds appropriated under paragraph (1) may become available for obligation 30 days after the Secretary submits to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report which describes—

(A) the circumstances which prevent the certification under paragraph (2) from being complete;

(B) remedial actions undertaken or to be undertaken with respect to such circumstances;

(C) the effects of such circumstances on the deployment and operation schedule and radar coverage; and

(D) a justification for proceeding with the program, if appropriate.

(c)(1) There are authorized to be appropriated to the Secretary for all fiscal years beginning after September 30, 1992, an aggregate of \$51,668,000, to remain available until expended, to complete the acquisition and deployment of the Automated Surface Observing Systems, and to cover all associated activities (including program management and operations and maintenance through September 30, 1996).

(2) Except as provided in paragraph (3), none of the funds appropriated under paragraph (1) may be obligated until the Secretary certifies to the Congress that—

(A) the systems meet the technical performance specifications included in the system contract as in effect on April 1, 1991;

(B) the systems can be fully deployed, sited, and operational without requiring further appropriations beyond amounts authorized under paragraph (1); and

(C) the Secretary does not foresee any further delays in the systems deployment and operation schedule.

(3) If the Secretary does not make a complete certification described in paragraph (2), funds appropriated under paragraph (1) may become available for obligation 30 days after the Secretary submits to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report which describes—

- (A) the circumstances which prevent the certification under paragraph (2) from being complete;
- (B) remedial actions undertaken or to be undertaken with respect to such circumstances;
- (C) the effects of the circumstances on the systems deployment and operation schedule and systems coverage; and
- (D) a justification for proceeding with the program, if appropriate.

SEC. 203. PUBLIC INSTITUTION LIAISON AND COMMUNITY PREPAREDNESS.

In order to maintain liaison with public institutions, and to assist in community preparedness, the Secretary shall provide at least one National Weather Service liaison officer for each area receiving such public institution liaison and community preparedness services, as of the date of enactment of this Act, from a Weather Service Office (WSO), a Weather Service Meteorological Observatory (WSMO), or an Agricultural Weather Service Center (AWSC). Such liaison officer shall be provided for at least two years after the WSO, WSMO, or AWSC is closed, consolidated, automated, or relocated. The Secretary shall provide such areas with sufficient personnel to ensure that the modernization and associated restructuring of the National Weather Service do not result in a degradation in the level of public institution liaison and community preparedness services offered to such areas.

SEC. 204. WEATHER RADAR REMOVAL OR DEACTIVATION.

(a) As part of its review of the National Weather Service's procedure for making certifications described in section 408(b) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989, the National Academy of Sciences shall identify those affected areas for which there is a significant doubt that the Secretary will be able to make such certification. Within 180 days following a certification for an area identified by the National Academy of Sciences, the Comptroller General of the United States shall submit a report reviewing such certification to the Committee on Commerce, Science, and Transportation of the Senate and the Committee of Science, Space, and Technology of the House of Representatives.

(b) Section 408(a) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 is amended by inserting "or remove any National Weather Service radar (except for the purposes of upgrading such radar on-site)" after "Service Forecast Office".

(c) Section 408(b) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 is amended—

(1) by inserting "or remove any National Weather Service radar (except for the purposes of upgrading such radar on-site) after any such office";

(2) by amending paragraph (3) to read as follows:

"(3) evidence, based on a site-specific operational demonstration of modernized National Weather Service operations, including the Next Generation Weather Radar, for each office to be closed, consolidated, automated, or relocated, or each National Weather Service radar to be removed (except for the purposes of upgrading such radar on-site), which supports the conclusion that no degradation in services will result from such action."; and

(3) by inserting after paragraph (3) the following: "A certification under this subsection shall be initially prepared by the meteorologist-in-charge at the office to be closed, consolidated, automated, or relocated, and the Secretary shall identify and explain any substantive differences between the certification as prepared by the meteorologist-in-charge and as submitted to the Committees under this subsection."

TITLE III—NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

SEC. 301. SATELLITE OBSERVING SYSTEMS.

(a) There are authorized to be appropriated to the Secretary to enable the National Oceanic and Atmospheric Administration to carry out its satellite observing systems duties \$367,359,000 for fiscal year 1992. Such duties include spacecraft procurement, launch, and associated ground station system changes involving polar orbiting and geostationary environmental satellites and land remote sensing satellites, as well as the operation of such satellites.

(b) Of the sums authorized under subsection (a) of this section, \$17,200,000 for fiscal year 1992 are authorized to be appropriated for the operation of the Landsat satellite system.

(c) Of the sums authorized under subsection (a) of this section, \$5,000,000 for fiscal year 1992 are authorized to be appropriated for the procurement of long-lead parts necessary for the construction of Landsat 7.

(d)(1) There are authorized to be appropriated to the Secretary for all fiscal years beginning after September 30, 1992, an aggregate of \$735,133,000, to remain available until expended, to complete the procurement of—

(A) Geostationary Operational Environmental Satellites I, J, K, L, and M; and

(B) the launching and supporting ground systems of such satellites.

(2) Except as provided in paragraph (3), none of the funds appropriated under paragraph (1) may be obligated until the Secretary certifies to the Congress that—

(A) the satellite instruments meet the technical performance specifications included in the satellite contract as in effect on October 1, 1990;

(B) the procurement activities described in paragraph (1) can be completed without requiring further appropriations beyond amounts authorized under paragraph (1); and

(C) the Secretary does not foresee any gaps in two-satellite service operations resulting from nonperformance of any contract for the procurement activities described in paragraph (1).

(3) If the Secretary does not make a complete certification described in paragraph (2), funds appropriated under paragraph (1) may become available for obligation 30 days after the Secretary submits to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report which describes—

(A) the circumstances which prevent the certification under paragraph (2) from being complete;

(B) remedial actions undertaken or to be undertaken with respect to such circumstances;

(C) the effects of such circumstances on the launch schedule and satellite coverage; and

(D) a justification for proceeding with the program, if appropriate.

(e)(1) There are authorized to be appropriated to the Secretary for all fiscal years beginning after September 30, 1992, an aggregate of \$272,758,000, to remain available until expended, to complete the procurement of—

(A) Polar Orbiting Environmental Satellites I, J, K, L, and M; and

(B) the launching and supporting ground systems of such satellites.

(2) Except as provided in paragraph (3), none of the funds appropriated under paragraph (1) may be obligated until the Secretary certifies to the Congress that—

(A) the satellite instruments meet the technical performance specifications included in the satellite contract as in effect on October 1, 1990;

(B) the procurement activities described in paragraph (1) can be completed without requiring further appropriations beyond amounts authorized under paragraph (1); and

(C) the Secretary does not foresee any gaps in two-satellite service operations resulting from nonperformance of any contract for the procurement activities described in paragraph (1).

(3) If the Secretary does not make a complete certification described in paragraph (2), funds appropriated under paragraph (1) may become available for obligation 30 days after the Secretary submits to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report which describes—

(A) the circumstances which prevent the certification under paragraph (2) from being complete;

(B) remedial actions undertaken or to be undertaken with respect to such circumstances;

(C) the effects of such circumstances on the launch schedule and satellite coverage; and

(D) a justification for proceeding with the program, if appropriate.

SEC. 302. ENVIRONMENTAL DATA MANAGEMENT.

There are authorized to be appropriated to the Secretary to enable the National Oceanic and Atmospheric Administration to fund those duties relating to data and information services, \$35,200,000 for fiscal year 1992. Such duties include climate data services, ocean data services, geophysical data services, and environmental assessment and information services.

SEC. 303. TRANSFER OF ARCHIVING RESPONSIBILITY FOR LAND REMOTE-SENSING DATA.

(a) FINDINGS.—The Congress finds that—

(1) section 602 of the Land Remote-Sensing Commercialization Act of 1984 (15 U.S.C. 4272) directs the Secretary of Commerce to provide for the archiving of land remote-sensing data for historical, scientific, and technical purposes, including long-term global environmental monitoring;

(2) the Secretary of Commerce currently provides for the archiving of Landsat data at the Department of the Interior's EROS Data Center, which is consistent with the requirement of such section 602(g) to use existing Federal Government facilities to the maximum extent practicable in carrying out this archiving responsibility;

(3) the Landsat data collected since 1972 are an important global data set for monitoring and assessing land resources and global change;

(4) the Secretary of the Interior maintains archives of aerial photography, digital cartographic data, and other Earth science data at the EROS Data Center that also are important data sets for monitoring and assessing land resources and global change;

(5) it is appropriate to transfer authority for section 602 of the Land Remote-Sensing Commercialization Act of 1984 to the Secretary of the Interior; and

(6) the Secretary of the Interior should explore ways to facilitate the use of archiving data for research purposes consistent with other provisions of such Act.

(b) **AMENDMENTS.**—The Land Remote-Sensing Commercialization Act of 1984 is amended—

(1) in section 402(b)(4), by inserting "of the Interior" after "Secretary";

(2) in section 602 (b), (c), (d), (f), and (g), by inserting "of the Interior" after "Secretary" each place it appears; and

(3) by adding at the end of section 602 the following new subsection:

"(h) In carrying out the functions of this section, the Secretary of the Interior shall consult with the Secretary to ensure that archiving activities are consistent with the terms and conditions of any contract or agreement entered into under title II, III, or V of this Act and with any license issued under title IV of this Act."

TITLE IV—BUY AMERICA PROVISIONS

SEC. 401. BUY AMERICA PROVISIONS.

(a) **RESTRICTIONS ON CONTRACT AWARDS.**—No contract or subcontract made with funds authorized under this Act may be awarded for the procurement of an article, material, or supply produced or manufactured in a foreign country whose government unfairly maintains in government procurement a significant and persistent pattern or practice of discrimination against United States products or services which results in identifiable harm to United States businesses, as identified by the President pursuant to subsection (g)(1)(A) of section 305 of the Trade Agreements Act of 1979 (19 U.S.C. 2515(g)(1)(A)). Any such determination shall be made in accordance with such section 305.

(b) **PROHIBITION AGAINST FRAUDULENT USE OF "MADE IN AMERICA" LABELS.**—If it has been finally determined by a court or Federal agency that any person intentionally affixed a label bearing a "Made in America" inscription, or an inscription with the same meaning, to any product sold in or shipped to the United States that is not made in the United States, that person shall be ineligible to receive any contract or subcontract from the National Oceanic and Atmospheric Administration, pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations.

(c) **BUY AMERICAN REQUIREMENT.**—(1) The Secretary is authorized to award to a domestic firm a contract for the purchase of goods that, under the use of competitive procedures, would be awarded to a foreign firm, if—

(A) the final product of the domestic firm will be completely assembled in the United States;

(B) when completely assembled, more than 50 percent of the final product of the domestic firm will be domestically produced; and

(C) the difference between the bids submitted by the foreign and domestic firms is not more than 6 percent.

(2) This subsection shall not apply to the extent to which—

(A) in the opinion of the Secretary, after taking into consideration international obligations and trade relations, such applicability would not be in the public interest;

(B) in the opinion of the Secretary, after consultation with the Secretary of Defense, compelling national security considerations require otherwise; or

(C) the President determines that such an award would be in violation of the General Agreement on Tariffs and Trade or an international agreement to which the United States is a party.

(3) This subsection shall apply only to contracts made for which—

(A) amounts are authorized by this Act to be made available; and

(B) solicitations for bids are issued after the date of enactment of this Act.

(4) The Secretary, before January 1, 1993, shall report to the Congress on contracts covered under this subsection—

(A) entered into with foreign firms pursuant to a determination made under paragraph (2) of this subsection; and

(B) awarded to domestic firms pursuant to paragraph (1) of this subsection, in fiscal years 1991 and 1992.

(5) For the purposes of this subsection—

(A) the term "domestic firm" means a business entity that is incorporated in the United States and that conducts business operations in the United States; and

(B) the term "foreign firm" means a business entity not described in subparagraph (A).

TITLE V—TROPICAL CYCLONE RESEARCH PROGRAM

SEC. 501. SHORT TITLE.

This title may be cited as the "Tropical Cyclone Research Act of 1991".

SEC. 502. FINDINGS.

The Congress finds that—

(1) many areas of the United States, including those bordering the Atlantic Ocean and Gulf of Mexico, rely on data provided by the Department of Defense through the Air Force WC-130 weather reconnaissance aircraft to predict the intensity, speed, and direction of movement of tropical cyclones, including hurricanes and tropical storms;

(2) these same areas also rely on data collected by the Department of Commerce through the National Oceanic and Atmospheric Administration's satellite, radar, aircraft, and buoy technologies to predict tropical cyclone behavior and to conduct research on improving forecasts and warnings;

(3) satellites, including the Geostationary Operational Environmental Satellites, are an important source of tropical cyclone information, but they cannot provide the same quality of information as is supplied by weather reconnaissance aircraft;

(4) there is currently only one Geostationary Operational Environmental Satellite positioned over the United States and the loss of its ability to collect data would severely restrict tropical cyclone information gathering; and

(5) a vigorous research program in tropical cyclone behavior and forecasting is important if the accuracy of prediction of tropical cyclones is to be significantly improved.

SEC. 503. ESTABLISHMENT OF PROGRAM.

The Secretary of Defense and the Secretary of Commerce shall establish a five-year joint program which expands the plan established in section 201(b) for collecting operational and reconnaissance data, conducting research, and analyzing data on tropical cyclones to assist the forecast and warning program and increase the understanding of the causes and behavior of tropical cyclones.

SEC. 504. RESPONSIBILITIES.

(a) The Secretary of Defense shall have the responsibility for maintaining, flying, and funding tropical cyclone reconnaissance aircraft to accomplish the program established under section 201(b)(2) and to transfer the data to the Secretary of Commerce, unless a joint agreement is reached, with the approval of both the transfer of such responsibility to an appropriate Federal agency or department.

(b) The Secretary of Commerce shall have the responsibility of funding and carrying out data gathering and research by remote sensing, ground sensing, and other technologies necessary to accomplish the program established under section 503.

SEC. 505. MANAGEMENT PLANS.

(a) The Secretary of Defense and the Secretary of Commerce shall jointly develop, and, within 120 days after the date of enactment of this Act, submit to the Congress,

a management plan for the program established under section 503 and section 201(b), which shall include organizational structure, goals, major tasks, and funding profiles for the five-year duration of the program.

(b) The Secretary of Defense and the Secretary of Commerce shall jointly develop, and, within four years after the date of enactment of this Act, submit to the Congress, a management plan providing for continued tropical cyclone surveillance and reconnaissance which will adequately protect the citizens of the coastal areas of the United States.

(c) The management plan and program shall provide for a minimum of the same level and quality of protection as the current tropical cyclone surveillance and reconnaissance program. The management plan and program shall in no way allow any reduction in the level, quality, timeliness, sustainability and area served, including the Hawaiian Islands, of both the existing principal and backup severe storm reconnaissance and tracking systems.

I. PURPOSE OF THE BILL

The purpose of the bill is to reauthorize appropriations for fiscal year 1992 for certain oceanic, weather, atmospheric, satellite, environmental data, and coastal programs of the National Oceanic and Atmospheric Administration.

II. COMMITTEE ACTIONS

The Subcommittee on Environment of the Committee on Science, Space, and Technology, held a number of hearings on the atmospheric, weather, satellite and environmental data programs of the National Oceanic and Atmospheric Administration during the 101st and 102d Congresses.

On April 11, 1991, the Subcommittee held a hearing on the NOAA Budget Request for FY 1992. NOAA officials testified concerning the adequacy of the Administration's FY 1992 budget request in enabling NOAA to fulfill its Congressionally mandated missions; the appropriate role and level of support for NOAA research and development programs; the status and plans for the modernization of the weather services; the status and plans for Landsat and satellite remote-sensing; the problems, budget shortfalls, and plans for data programs at NOAA; and NOAA's leadership role in the interagency program of climate and global change research.

On March 20, 1991, the Subcommittee held a hearing on NOAA's program to modernize the technology employed by the National Weather Service and plans to establish a new Office of Systems Procurement. NOAA and Department of Commerce officials provided testimony on the delays and contract disputes on the NEXRAD Doppler weather radar program, and the status of the Automated Surface Observing System (ASOS) and the Advanced Weather Interactive Processing System (AWIPS).

The Subcommittee held extensive hearings on the programs of the National Oceanic and Atmospheric Administration during the 101st Congress.

On June 26, 1990, the Subcommittee held a hearing on coastal monitoring and estuarine research. Testimony was heard on NOAA's National Status and Trends program; EPA's Environmental Monitoring and Assessment program; the National Estuarine Research Reserve System mandated by the Coastal Zone Management Act; the National Estuarine Program mandated by the Water Quality Act; proposed new satellite remote-sensing programs for

oceanographic research and monitoring; and interagency efforts to coordinate and establish a national ocean and coastal monitoring and research program.

On February 15, 1990, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a hearing in Riverside, California on Innovative Applications, Advanced Technologies, and New Markets for Landsat remote sensing in Riverside, California. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies of the commercial viability of the Landsat system; and the development of new markets for remote-sensing from space.

On May 9, 1989, the Subcommittee held a joint hearing with the International Scientific Cooperation Subcommittee on the Future of Landsat Commercialization. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies on the commercial viability of the Landsat system; and the pros and cons of possible bilateral and multilateral consortia in space remote-sensing. Testimony was heard from representatives of the French, Soviet and Japanese remote-sensing systems; representatives of the NOAA Landsat Marketing study contractors; and other expert witnesses from the private-sector and academia.

On April 7, 1989, the Subcommittee held a hearing on Hurricane Forecasting and Reconnaissance in West Palm Beach, Florida. The hearing examined the hurricane forecast and reconnaissance programs of the National Weather Service and the status of the hurricane aircraft reconnaissance program operated by the U.S. Air Force. Testimony was heard from the Director of the National Hurricane Center; the Deputy Assistant Administrator of the National Environmental Satellite, Data, and Information Service, National Oceanic and Atmospheric Administration; the Air Weather Services of the U.S. Air Force; private-sector meteorologists, and professors of meteorology.

On March 7, 1989, the Subcommittee held a hearing on the Proposed Termination of the Landsat 4 and Landsat 5 satellites. The hearing examined the scheduled termination of the Landsat 4 and Landsat 5 remote-sensing satellites due to a lack of funding available to support operational expenses. Testimony was heard from the Assistant Administrator for Satellite and Information Service, National Oceanic and Atmospheric Administration; the Deputy Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Department of Defense; the Director of the U.S. Geological Survey, Department of Interior; and the Chairman of the World Agriculture Outlook Board, Department of Agriculture. In addition, the Subcommittee heard from a wide range of public and private-sector users of the Landsat system; and representatives of the corporate entity designated to commercialize Landsat.

On March 3, 1989, the Subcommittee held a hearing on Tornado Forecasting and Severe Storm Warnings in Raleigh, North Carolina. The hearing focused on the ineffectiveness of the National Weather Service in providing tornado warnings during the severe storms and tornadoes of November 27-28, 1988, and identified new technologies to improve the capabilities of the National Weather

Service. Testimony was heard from the Deputy Director of the National Weather Service, the Director of the National Severe Storms Forecast Center, the Meteorologist in Charge at the Raleigh-Durham Weather Service Office, the Mayor of Raleigh and other local officials, local television meteorologists, and professors of meteorology from North Carolina State University and the University of North Carolina at Asheville.

LEGISLATIVE ACTION

The Subcommittee on Environment, on April 17, 1991, approved by unanimous voice vote, two Committee Prints authorizing the programs of the National Oceanic and Atmospheric Administration for fiscal year 1992. The first Committee print (later introduced as H.R. 2010) included only the NOAA programs under the sole jurisdiction of the Committee on Science, Space, and Technology. The second Committee print (later introduced as H.R. 2011) authorized all of NOAA's ongoing activities, including those under the jurisdiction of the Committee on Merchant Marine and Fisheries. The Subcommittee ordered clean bills introduced for further consideration by the full Committee on Science, Space, and Technology.

On May 8, 1991, the Committee on Science, Space, and Technology approved H.R. 2011, with amendments, and ordered the bill reported to the House of Representatives.

III. BACKGROUND AND NEED FOR THE LEGISLATION

The National Oceanic and Atmospheric Administration (NOAA) was created in 1970 by Executive Order of the President through Reorganization Plan #4. The committee has worked diligently over the years to establish a comprehensive legislative authorization for the National Oceanic and Atmospheric Administration. This bill is an important and vital step in this process.

In the 98th Congress, legislation authorizing NOAA activities, S. 1097, was vetoed by the President on October 19, 1984. In the 99th Congress, the Consolidated Omnibus Budget Reconciliation Act of 1986 (P.L. 99-272) authorized various NOAA activities, including nautical and aeronautical chart programs, marine research and monitoring, ocean pollution research, and weather modification research.

In the 100th Congress, provisions authorizing appropriations for NOAA's satellite, atmospheric, and weather programs (previously approved by the House of Representatives and the Senate as S.1667) were included in Title IV of S. 2209, the National Aeronautics and Space Administration Authorization Act for Fiscal Year 1989, which was signed into law on November 17, 1988 (P.L. 100-685).

During the First Session of the 101st Congress, the House of Representatives approved H.R. 2427, authorizing NOAA's weather, atmospheric research, satellite and environmental data programs for fiscal years 1990, 1991, and 1992, by a vote of 380-1. No action was taken by the Senate on this legislation.

During the Second Session of the 101st Congress, the House of Representatives approved H.R. 4115, authorizing NOAA's oceanic, coastal, satellite, weather, atmospheric, and environmental data

programs for FY 1992. Although the Senate Commerce Committee approved similar legislation (S. 2788), the bill was not considered by the full Senate.

NOAA programs under the jurisdiction of the Science, Space, and Technology Committee include the National Weather Service, the Office of Oceanic and Atmospheric Research (OAR), the National Environmental Satellite, Data, and Information Services (NESDIS), the Coastal Environmental Research and Monitoring Program, and the National Estuarine Reserve Research System, (NERS). These programs serve a vital function in fulfilling NOAA's mission of carrying out research to improve the understanding and sound management of the earth's resources.

The need to proceed with a comprehensive authorization bill is particularly important in view of NOAA's plans to acquire major new systems to modernize and improve its weather and satellite services, and to study important phenomena such as global climate change.

NATIONAL WEATHER SERVICE

NOAA's National Weather Service (NWS) is responsible for weather forecasts and severe weather services such as hurricane, tornado, and flash flood warnings and alerts. The National Weather Service is also responsible for climate forecasts, agriculture weather and fire weather services, as well as marine forecasts and marine severe weather warnings.

Under the guidance of the Committee on Science, Space, and Technology, the National Weather Service has started several major procurements to modernize NWS equipment. These major systems acquisitions include (1) a nationwide network of 160 new Doppler radar (NEXRAD) systems; (2) over 1,000 automated weather observation stations (ASOS); (3) a set of high speed supercomputers to tie all these sources of information together with (4), a new data processing, communication, and meteorologist work station display system (AWIPS).

NEXRAD, the Next Generation Radar system, is a state-of-the-art Doppler radar system which will replace the aged and obsolete radar systems currently used to provide warnings and forecasts of severe weather and precipitation. Nationwide implementation of the NEXRAD system will increase tornado warning lead times from the current average of 2-3 minutes to 20-30 minutes.

The Automated Surface Observing System (ASOS) was designed to provide reliable 24-hour per day, continuous surface weather observations. It will replace the current costly and time-consuming manual system of obtaining surface observations of temperature, pressure, wind speed and direction, humidity, cloud cover and precipitation.

The Central Computer Facility of the National Oceanic and Atmospheric Administration began acquisition of a Class VII supercomputer system in 1990, which will result in more accurate and specific forecasts of major storms, including hurricanes, severe thunderstorms, winter storms, and floods, as well as more accurate general weather forecasts in the medium (3-10 day) and extended (30 day) range.

The Advanced Weather Interactive Processing System (AWIPS), the very nerve center of a modernized weather service, will provide the forecaster with all available weather data including satellite observations, surface observations, Doppler radar data, radiosondes and other information. This system will integrate satellite and radar data for the first time and provide to the local forecaster the same capability that has been shown to significantly improve the forecasts of the National Severe Storms Forecast Center.

OCEANIC AND ATMOSPHERIC RESEARCH

The Office of Oceanic and Atmospheric Research (OAR) conducts most of the research in support of NOAA's service organizations. These programs include weather, climate, air quality, and solar terrestrial research and service programs. Major programmatic activities of OAR include climate research and forecasting, basic tornado and hurricane research, weather forecast model research and development, ozone depletion research, climate and global change monitoring and research.

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICES

The National Environmental Satellite, Data, and Information Service (NESDIS) is responsible for providing operational satellite services for NOAA and the Nation. NESDIS procures, operates and maintains the spacecraft and ground system components of two weather satellite systems, the Geostationary Operational Environmental Satellite (GOES) system and the Polar-Orbiting Environmental Satellite (POES) system. The geostationary system provides near-continuous observations of the Earth's western hemisphere to support the provision of weather warnings, forecasts and other applications. The polar-orbiting system obtains global environmental data such as measurements of the vertical temperature of the atmosphere, sea surface temperatures, cloud motion and winds. The polar satellites also provide a relay function for global emergency signals from aircraft and ships in distress.

The National Environmental Satellite, Data, and Information Services is responsible for the operation of the land remote-sensing satellites (Landsat 4 and Landsat 5) and the implementation of the Landsat Commercialization program. Landsats 4 and 5 are operating beyond their designed lifetime, but continue to provide data to users through EOSAT, the private company selected to commercialize the Landsat system. The Landsat 6 satellite, to be launched in 1992, and its ground system will be operated by EOSAT.

NESDIS is also responsible for archiving environmental data, from satellites and other sources, and making the data available to users. Oceanic, geophysical, and climatic data are archived at three facilities, the National Oceanic Data Center in Washington D.C., the National Geophysical Data Center in Boulder, Colorado, and the National Climatic Data Center in Asheville, North Carolina.

IV. COMMITTEE VIEWS

The paragraphs that follow provide an explanation of the Committee's intent for this legislation. A summary of the appropriations authorized in the bill are as follows:

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

(In millions of dollars)

	Fiscal year—			H.R. 2011
	1990 actual	1991 approps	1992 budget request	
National Weather Service.....	300.224	300.252	298.894	308.065
Operation and research systems acquisition.....	125.728	154.168	209.725	209.725
NWS total.....	425.952	454.420	508.619	517.790 (+9.171)
National Environmental Satellite, Data, and Information Service (NESIDS):				
Satellite observing systems.....	242.998	252.305	371.530	377.359
Environmental data management.....	21.536	22.187	35.200	35.200
NESDIS total.....	264.534	274.492	406.730	402.559 (-4.171)
Office of Oceanic and Atmospheric Research.....	171.784	208.708	186.776	181.776 (-5.000)
National Ocean Service.....	144.575	151.757	157.252	157.252
National Marine Fisheries Service.....	186.293	212.24	174.624	
Program support.....	134.214	148.899	156.275	156.275
Total.....	1,327.352	1,450.516	1,590.276	1,415.652

NATIONAL WEATHER SERVICE OPERATIONS AND RESEARCH

The Committee rejects the Administration's proposals to terminate Agriculture Weather Services, Fruit Frost Warning Services, and Fire Weather Services, and has authorized appropriations (an increase of \$9,171,000) sufficient to continue these programs. These services are central to the mission of the National Weather Service and have been since the creation of the Weather Bureau in 1890. In setting forth its duties, Congress provided that the NWS "shall have charge of weather, . . . the display of weather and flood signals for the benefit of agriculture, . . . the display of frost and cold-wave signals, the distribution of meteorological information of agriculture . . ." (15 U.S.C. 313).

Hurricane Prediction and Forecasting Research

Expert witnesses testifying at the April 7, 1989 hearing in Florida on hurricane forecasting and reconnaissance testified that the accuracy of hurricane prediction had not improved since the 1960's. Several reasons were given for this lack of progress including the lack of outside scientific peer review to assess the strengths and weaknesses of research programs and insufficient funding for many of the research programs.

In response to these concerns, the Committee has directed that the Secretary of Commerce establish a standing committee of tropi-

cal cyclone research experts who will provide NOAA with independent scientific advice and recommendations to improve its hurricane reconnaissance and hurricane research programs. Furthermore, the Committee has directed the Secretary to develop a 5-year tropical storm research program, drawing on the expertise of the advisory committee and other agencies. Since the Air Force manages the WC-130 hurricane surveillance aircraft program, the Committee expects that the long-range plan of the Air Force WC-130 hurricane surveillance aircraft should be an integral part of the 5-year tropical storm research program. The purpose of this program is to improve the accuracy of hurricane forecasting.

Access to Meteorological Data

The Committee is aware of the concerns that have been expressed regarding access to unenhanced meteorological data generated by the National Weather Service, particularly as new modernized systems such as NEXRAD, AWIPS and PROFILER are implemented. The private weather industry, which is so dependent on a reliable and affordable flow of data, is particularly concerned that access to this data stream be assured. Therefore, the Committee reiterates its support for the distribution of weather data to the widest possible audience, of public and private users. Furthermore, it is the Committee's view that meteorological data be provided to all users, on a non-discriminatory basis, without preference, bias, or any other special arrangement (except for national security concerns) regarding delivery, format, or technical considerations which would favor one buyer or class of buyers over another.

NATIONAL WEATHER SERVICE SYSTEMS ACQUISITION AND MODERNIZATION OF THE WEATHER SERVICE

The National Weather Service, under the guidance of the Committee on Science, Space, and Technology, has been implementing a program designed to modernize its equipment through a series of technological improvements and procurements. The Committee strongly supports the modernization of the National Weather Service, and believes that it should receive the highest priority of the National Oceanic and Atmospheric Administration and the Department of Commerce.

NEXRAD

The key component in this modernization effort is the Next Generation Radar system (NEXRAD) which is designed to replace the aged radar systems currently used to provide short-term warnings and forecasts of severe weather and precipitation.

The current radar system has been increasingly troubled by breakdowns, outages, a lack of spare parts, and delay in the delivery of modification kits often needed to enable spare parts to fit outdated and outmoded radar equipment. For example, on November 28, 1988, tornadoes in North Carolina killed four people, injured 157 people, left 982 people homeless, and caused \$77 million in damage. The National Weather Service offices in North Carolina did not provide any advance warning of the tornadoes, and no watch was issued prior to the initial tornado. In fact, the Raleigh-

Durham radar had been out of service for eight days, due to the lack of spare parts and spare part modification kits, as well as problems with the spare part distribution system.

The Committee is concerned that even if the radar had been fully operative, the equipment is technologically obsolete and could not have provided adequate warning. The National Weather Service's internal investigation of the incident, the Natural Disaster Survey Report of the North Carolina Tornadoes of November 28, 1988, made a number of recommendations to improve the NWS hazardous weather warning system. The final recommendation in the report concluded,

Overriding all is a compelling, almost desperate, need to upgrade and replace the nation's aged system of weather radars. These actions must be expedited to prevent another devastating surprise such as we witnessed on November 28, 1988.

The Committee continues to be concerned that the pace of the program to implement the NEXRAD system does not reflect the urgency expressed in the November, 1988, Natural Disaster Survey report.

The current contract dispute between the Department of Commerce and the manufacturer of the NEXRAD Doppler weather radar system has had the result of further delaying the implementation of this lifesaving equipment. It is the view of the Committee that NEXRAD is a critical national priority and should be expedited.

AWIPS

The Committee is also concerned that inadequate funding requests for the Advanced Weather Interactive Processing System (AWIPS) may delay the program to the extent that it will be out of phase with the implementation of the other components of the modernized weather system. The Committee considers the Advanced Weather Interactive Processing System, the nerve center for data processing, integration and analysis for weather warning and forecast stations nationwide, to be a critical priority.

AWIPS, NOAAPORT, and POES

The estimated total cost for a follow-on Polar Orbiting Environmental Satellite (POES) system after NOAA-M is \$726,425,000. The estimated total cost for the Advanced Weather Interactive Processing System/NOAAPORT is \$467,211,000. However, these systems are in the development phase and are not yet under production and deployment contract. Nevertheless, should these systems' budget, capability and schedule estimates change, the Committee should be notified immediately.

Restructuring National Weather Service Offices

The U.S. Congress, with the guidance of the Committee on Science, Space, and Technology, has prohibited the closure, consolidation, full automation or relocation of any weather service office until the Secretary of Commerce can certify to the Committee on Science, Space, and Technology that there will be no degradation of

weather services provided to the affected area (Section 408 of P.L. 100-685). P.L. 100-685 further mandates that this certification be based upon the operational demonstration of the technology.

The National Academy of Sciences has agreed to review this modernization, restructuring effort, and certification process, and has indicated that the overall plans are sound. In the National Research Council's report entitled "Toward a New National Weather Service—A First Report," the Committee on National Weather Service Modernization, commenting on the certification process said:

The Committee believes that carefully constructed and unbiased comparisons will demonstrate a noteworthy improvement of the quality and accuracy of service.

In testimony before the Subcommittee on Environment, the Deputy Under Secretary for Oceans and the Atmosphere indicated that no weather office would be closed or restructured under the modernization plan before 1996. Nevertheless, the Committee intends to continue to monitor the modernization and restructuring of the National Weather Service very closely and reserves the right to take whatever actions may be necessary and appropriate to assure the safety and well-being of the American public. This includes, of course, assuring that no unnecessary and potentially life-threatening delay in the modernization schedule occurs for other than justifiable technical reasons.

Public Institution Liaison and Community Preparedness

The Committee endorses the National Research Council's finding on public institutions, and community preparedness. The National Research Councils Committee on National Weather Service Modernization in the report entitled "Toward a New National Weather Service—A First Report" wrote:

Community preparedness is essential to save lives and minimize property damage during severe weather situations. The critical role of the NWS is to participate actively in preparedness planning and then communicate both to state and local governments, and to the public, the seriousness of specific weather situations. A leadership role is necessary, and the Committee believes that a limited, part-time approach to this key function is entirely inadequate. Many of the expected improvements in the forecasting of storms and severe weather will go to waste if there is inadequate planning for response to the improved watches and warnings.

The Committee notes that the public institution liaison and community preparedness may well be one of the most important functions of the National Weather Service. The best meteorological technology is of no value if the information it generates cannot be utilized by the public in a timely fashion. Flood and tornado warnings are useless after the fact.

The Committee further notes that public institution liaison and community preparedness are among the National Weather Service's activities least suited for automation. Proper performance of these duties often requires an intimate knowledge of the local ter-

rain, populace, public leaders, and institutions. The human element is also vital to maintaining disaster-assistance preparedness and to providing prompt, accurate information to local officials and industries.

Weather Radar Removal

The Committee eagerly anticipates the introduction of the NEXRAD Doppler weather radar technology as well, as the other advances offered by the National Weather Service's modernization program. The Committee also recognizes that these improvements will warrant some consolidation of the National Weather Service's operations.

The Committee notes that during the operational testing of the NEXRAD preproduction model at Norman, Oklahoma in March of 1989, meteorological data based upon Doppler capabilities was demonstrated to a range of 144 miles, and convective reflectivity data was effective out to 288 miles. This level of performance, a dramatic improvement over the current radar, was reconfirmed during tests of the limited-production NEXRAD system in Norman, Oklahoma in March of 1991.

Nevertheless, many Members are concerned that the proposed degree of consolidation may be too ambitious. For example, while the average NEXRAD radar would have an area of responsibility with the radius of 125 miles, a study commissioned by the Evansville, Indiana Chamber of Commerce described NEXRAD's capabilities as "fair to poor" at 100-150 miles. This finding appears to be in conflict with the test results of the Norman, Oklahoma NEXRAD system.

Thus, the Committee notes, with interest the statement of the National Research Council's Committee on the Modernization of the National Weather Service,

"[T]o increase the credibility of the certification process in the eyes of user groups and Congress, it may be appropriate, at some stage, to involve an independent evaluation of the statistical and analytical measures developed during the initial operations of the WFOs as applied to each specific certification."

Many Members also have concerns that the Modernization and Associated Restructuring Demonstration (MARD) in Oklahoma, Kansas, Texas, Colorado, and Missouri will not be sufficient to demonstrate the efficacy of NEXRAD in certain areas of this country's widely varied terrains and weather patterns. Site-specificity may be the only way to satisfy the local populations of the safety of removing local weather radars.

In Section 204—Weather Radar Removal or Deactivation, the word, "remove" was chosen over "deactivate" because of the Committee's concerns that there are some locations where the current radar must be moved before the WSR-88D NEXRAD radar can be installed, because the WSR-88D will be installed at the same physical location of the current radar. It is the Committee's intent that, after the WSR-88D radar has been commissioned in such an area, the current radar will be decommissioned but will not be physically removed from the location until certification has been completed.

This would not preclude the removal of parts from decommissioned radars to maintain operational radars. A mobile radar or adjacent radars will provide coverage for these areas during the transition.

ATMOSPHERIC RESEARCH

Climate and Air Quality Research

The Committee is concerned that despite the importance of climate information, climate data systems and services have experienced a general deterioration in the past two decades. Federal planning and resources for climate data management and services have failed to keep pace with the growth in volume of data collected by new observing systems. Therefore, the Committee recommends that NOAA prepare and submit to Congress a plan for the implementation of a nationwide climate services and applied climatology program. The purposes of the program are to improve (1) the timeliness of climate services, (2) the spatial coverage of weather observational networks, (3) the quality control of climate data, (4) access to climate data, (5) the use of climate data, (6) the coordination of Regional Climate Centers with Federal climate centers, and (7) private sector participation in providing climate services.

The Committee recognizes the important role of the National Oceanic and Atmospheric Administration in conducting research to advance our understanding of fundamental processes in air quality. NOAA researchers have characterized some of the key chemical transformations that form oxidants and acids and have discovered the combined role of natural and human-made emissions in forming surface level ozone. Moreover, NOAA plays a major role in the monitoring of both dry and wet deposition and its laboratories are acknowledged to be at the forefront of chemical instrumentation development. This expertise can help provide early indications of improved air quality and assist with building a better predictive understanding of future changes. The Committee expects that NOAA's experience in preparing international scientific assessments will be of critical importance in interpreting the significance of new results of ongoing air-quality research to policy makers.

Supercomputer Procurements

The Committee is concerned that a number of supercomputer procurements of various federal agencies in recent years have been made in a non-competitive environment. If the United States is to develop and maintain a robust supercomputing industry, it is essential that new entrants in the marketplace be given the opportunity to compete in a fair and open fashion. Competition will not only encourage development of alternative suppliers, but permit the federal government to benefit from competitively priced procurements.

Mesoscale Severe Weather

The Committee continues to strongly support increased funding for tornado and severe thunderstorm weather research in the southeastern coastal plain region of the United States. Information compiled by the National Climatic Data Center in Asheville, North Carolina, suggests that the recent storms in North Carolina are

part of a general increase in tornado activity in the Southeast in the past decade. In fact, North Carolina had the dubious distinction of leading the nation in tornado sightings in 1989, far ahead of both Texas and Oklahoma. It has come to the Committee's attention that there is a pressing need for more information on the unique character of southeastern tornadoes and severe thunderstorms which seem to differ significantly from storms in the Midwest. At the present time, there is no meteorological research being undertaken on tornadic activity in the East, and important differences in the nature of southeastern storms needs to be explored.

While the threat from southeastern tornadoes has grown, our understanding of them has not. In recent testimony, the Director of the National Weather Service and the Director of the Severe Storms Forecast Center stressed that current severe storm models are based upon Midwestern weather patterns and often underestimate the severity of smaller storm cells in the Southeast. Both also indicated that better and more extensive research into the dynamics of tornadoes in the southeastern region would dramatically improve our forecasting and detection capabilities, and, more importantly, save lives. Therefore, the Committee recommends that these research activities be conducted by the National Oceanic and Atmospheric Administration through a cooperative research program established with a consortium of southeastern universities with qualified atmospheric science research capabilities.

Solar-Terrestrial Services and Research

The Committee is increasingly concerned about geomagnetic storms caused by solar activity and their severe effects upon large segments of society. The Committee is aware that a number of critical systems are seriously impacted by geomagnetic storms, particularly electric power systems, communications systems, radar systems, navigational systems, satellites and manned space vehicles. These concerns are particularly serious since the present 11-year solar cycle, peaking in 1990-91, will be followed by the peak of geomagnetic activity in 1993-94.

The Committee notes the devastating effects of the severe geomagnetic storm of March 13, 1989, which caused a power system blackout for 6 million people in the Canadian Province of Quebec, and the failure of major power transformers which resulted in a 6-week shutdown of a nuclear power station in New Jersey. That same geomagnetic storm damaged other large power transformers in the northeastern United States and Canada, and, except for fortuitous light loading on the power grid in the northeast corridor, could have triggered a blackout from Washington, D.C. to the New England States.

The Committee is also aware that this same geomagnetic storm produced serious problems with orbiting satellites, including NOAA's weather satellites. Therefore, the Committee asks NOAA to investigate and report to the Committee on the impact of the March 13, 1989, geomagnetic storm on NOAA's satellite systems; as well as NOAA's proposed response measures to minimize the impact of future geomagnetic storms.

Furthermore, the Committee directs NOAA to provide the Committee with a report on the feasibility and costs of establishing a

near-term solar wind monitoring satellite, such as the proposed "Windsock" program, that could be operational in time for the expected peak of geomagnetic activity in 1993-94. NOAA is also requested to provide feasibility and cost estimates for solar wind monitors for succeeding solar cycles as well as a listing of public and private systems that may require reliable advance warnings of such disturbances.

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION
SERVICE

LANDSAT

The Committee remains greatly concerned about the continued delay in the development of a coherent policy for the Landsat satellite program. On June 1, 1989, the President directed the Office of Management and the Budget (OMB) and the National Space Council to review options which would assure the continuation of Landsat-type data collections after Landsat 6. Although nearly two years have passed since that direction was issued, nothing has been forthcoming from OMB or the National Space Council related to Landsat data continuity.

In testimony before the Subcommittee on Environment on April 11, 1991, the Administrator of the National Oceanic and Atmospheric Administration said, "Mr. Chairman, you are correct that [Landsat] data is important for the climate and global change issue, not necessarily just for NOAA but also for other agencies who are involved in that program. And it is an issue which, again, will have to be addressed by the Administration as a whole. At present we have a Landsat 6 that is going to be up there. The data will be available through Landsat 6. The question before [all of us] is Landsat 7, and that is a decision that has to be made and it has to be made fairly soon."

The Committee notes that further delay in approval of the development of Landsat 7 will likely result in a significant gap in data continuity in the late 1990's, severely hampering the global climate change research activities of NOAA, NASA, and the research community at large. The Committee believes that the continuation of the Landsat system is essential for global climate change research, national security applications, and other civilian and commercial uses. Thus, the Committee is taking action in support of these important programs and activities by providing \$5 million in funding authorization for the procurement of long-lead parts for the construction of Landsat 7.

The Committee recognizes that fundamental decisions regarding funding sources, technical requirements, institutional arrangements, and commercialization considerations must still be made to assure the continued success of the Landsat program. The Committee will be working with the other committees in Congress and with the Administration to develop a policy consensus on the future of the Landsat system, with the hope that this consensus will be accomplished in time to include funding in the Administration's fiscal year 1993 budget request.

Procurement of Long-Lead Parts for Landsat 7

The Committee has provided \$5,000,000 in NOAA's budget for the procurement of long-lead parts for Landsat 7 and has also provided \$5,000,000 for this purpose in the NASA Authorization Act for FY 1992. In addition the Committee is working to secure additional funding from the Department of Defense for long lead procurement parts for Landsat 7. The Committee intends that NOAA work with these other agencies to determine which long-lead parts should be procured based upon their impact on the Landsat construction schedule and their commonality to programs already underway within each agency.

Environmental Data Management

The Committee is concerned that data management activities in NOAA are not keeping pace with the expanding requirements presented by new data collection systems such as GOES-NEXT and NEXRAD, and by new research initiatives such as the Climate and Global Change program. The Committee intends that NOAA should meet its data management responsibilities and has included the additional funding authorization requested for this purpose.

WC-130 HURRICANE RECONNAISSANCE

A vital and necessary link in the current hurricane reconnaissance program is the WC-130 aircraft, operated by the Air Force. Despite the fact that there is no adequate replacement technology at this time, the Department of Defense has not been supportive of this program in the past. For example, on June 30, 1990, the Secretary of Defense sent a memorandum to the Secretary of the Air Force ordering him to "cease operating these aircraft by September 30, 1990." Fortunately, that order was rescinded on July 24, 1990, following considerable objection by the Committee on Science, Space, and Technology and other Members of Congress. Consequently, the Committee believes that the joint participation of both the Department of Defense and the Department of Commerce in the development of a program of hurricane reconnaissance and research is absolutely essential.

V. SECTION-BY-SECTION ANALYSIS

The paragraphs that follow provide a section-by-section, description of the bill, and an explanation of the Committee's intent for each section.

TITLE I—OCEAN AND COASTAL PROGRAMS

Section 101. National Ocean Service

Section 101(a) authorizes appropriations of \$47,983,000 for fiscal year 1992 for carrying out the mapping, charting, and geodesy activities of the National oceanic and Atmospheric Administration.

Section 101(b) authorizes \$67,827,000 for fiscal year 1992 for the observation and assessment activities of the National Oceanic and Atmospheric Administration.

Section 101(c) authorizes \$41,442,000 for fiscal year 1992 for the ocean and coastal management activities of the National Oceanic

and Atmospheric Administration under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972, and the Coastal Zone Management Act of 1972.

Section 102. Oceanic and Atmospheric Programs

Section 102(a) authorizes appropriations of \$106,695,000 for fiscal year 1992 to enable NOAA to carry out its climate and air quality research duties. The section specifies that such duties include inter-annual and seasonal climate research, long-term climate and air quality research, and support of the Regional Climate Centers and the National Climate Program.

Section 102(b)(1) authorizes appropriations of \$37,007,000 for fiscal year 1992 to the Secretary of Commerce to enable NOAA to carry out its atmospheric research duties. The section specifies that such duties include research to develop improved prediction capabilities for atmospheric processes, as well as solar-terrestrial services and research.

Section 102(b)(2) authorizes appropriations of \$3,000,000 for fiscal year 1992 for Stormscale Operational and Research Meteorology (STORM) program.

Section 102(c) directs the Chief Scientist of the National Oceanic and Atmospheric Administration to prepare and submit to Congress, not later than one year after enactment, a plan for a nationwide climate services system and applied technology program with detailed requirements and schedules for the improvement of climate services. The section specifies that the plan shall include plans for the improvement of the timeliness of climate service, the spatial coverage of weather observational networks, the quality control of climate data, the coordination of Regional Climate Centers with federal climate centers, and private sector participation in providing climate services. Section 102(c)(2) authorizes appropriations of \$200,000 for fiscal year 1992 for the preparation of the climate services system modernization plan.

Section 103. Program Support

Section 103 authorizes appropriations of \$72,084,000 for fiscal year 1992 to the Secretary of Commerce for carrying out the executive direction and administrative activities of the National Oceanic and Atmospheric Administration. The section specifies that such activities include management, administrative support, and provision of retired pay of NOAA commissioned officers.

Section 103(b) authorizes appropriations of \$9,898,000 for fiscal year 1992 to the Secretary of Commerce for the acquisition, construction, maintenance, and operation of facilities of the National Oceanic and Atmospheric Administration.

Section 103(c) authorizes appropriations of \$65,743,000 for fiscal year 1992 to the Secretary of Commerce to enable NOAA to carry out its marine services activities. The section specifies that such activities include ship operations, maintenance, and support.

Section 103(d) authorizes appropriations of \$8,550,000 for fiscal year 1992 to the Secretary of Commerce to enable NOAA to carry out its aircraft services activities. The section specifies that such activities include aircraft operations, maintenance, and support.

Section 104. Notice of Reprogramming

Section 104 prohibits the Secretary from reprogramming funds in excess of \$500,000 unless 30-day notice is provided to the appropriate authorizing committees and appropriations committees of Congress.

Section 104(b) prohibits the Secretary from obligating any amount for a program unless the Secretary provides 90-day notice to the appropriate authorizing and appropriations committees of Congress, including a description of the program, and statement of purpose and goal, and an accounting of expenditures proposed for the program.

Section 105. Satellite Oceanography

Section 105(a) directs the Committee on Earth and Environmental Sciences to develop findings and recommendations regarding the most urgent needs of oceanographic researchers for satellite remote-sensing capabilities and data; including the present inadequacies in these capabilities; and report on the major goals of satellite oceanography for the next ten years.

Section 105(b) directs the Committee on Earth and Environmental Sciences to report to Congress, not later than one year after enactment, a report describing the actions to be taken to correct the inadequacies in remote-sensing capabilities; improving the availability of remotely sensed data; and achieving the 10-year goals developed pursuant to section 105(a).

Section 106. Satellite Capabilities for Fisheries Enforcement

Section 106 directs the NOAA Administrator to prepare and submit to Congress a report describing how current and planned satellite capabilities of the Federal government can aid in the enforcement of Federal fisheries laws and the implementation of international fisheries conservation programs.

Section 107. Authority to Acquire Real Property and Improvements in Hampton Roads, Virginia

Section 107 authorizes the NOAA Administrator to acquire, by exchange or lease-purchase, or both, real property and improvements thereto in the area of Newport News, Norfolk, Virginia, for the purpose of consolidating facilities of the National Oceanic and Atmospheric Administration.

Section 108. Audit of Damage Assessment Program

Section 108 requires the Comptroller General to submit to Congress an audit of the Damage Assessment and Restoration Revolving Fund for 1991, 1992, 1993, and 1994.

TITLE II—NATIONAL WEATHER SERVICE

Section 201. Operations and Research

Section 201(a) authorizes appropriations of \$308,065,000 for fiscal year 1992 to the Secretary of Commerce to enable the National Oceanic and Atmospheric Administration (NOAA) to carry out the operations and research duties of the National Weather Service. The section includes among these duties meteorological, hydrologi-

cal, and oceanographic public warnings and forecasts, as well as applied research.

Section 201(b)(1) establishes a tropical cyclone advisory committee to make recommendations to improve Atlantic hurricane research activities and Atlantic hurricane reconnaissance procedures. Section 201(b)(2) and 201(b)(3) directs the Secretary of Commerce to establish a 5-year program of tropical cyclone research to assist the hurricane forecast and warning system, utilizing the expertise of the advisory committee; and to submit a management plan for the program to Congress within 120 days after enactment. Section 201(c) authorizes appropriations of \$250,000 in fiscal year 1992 for the activities of the tropical cyclone advisory committee.

Section 202. Systems Acquisition

Section 202(a) authorizes appropriations of \$209,725,000 for fiscal year 1992 to the Secretary of Commerce to enable NOAA to carry out its public warning and forecast systems duties under law. The section includes among these duties the development, acquisition, and implementation of major public warning and forecast systems.

Section 202(b)(1) sets an aggregate appropriations cap of \$196,956,000 for all the fiscal years beginning after September 30, 1992, for the complete acquisition and deployment of the Next Generation Weather Radar System, including specified associated activities. Section 202(b)(2) prohibits the obligation of the funds appropriated under paragraph (1) until the Secretary of Commerce certifies to Congress that system meets technical performance specifications, the system contract is viable, the system software is functional, the system can be fully deployed within the funding cap, and the system will meet its planned deployment schedule. Section 202(b)(3) provides that the funds appropriated under paragraph (1) may be obligated if the Secretary does not provide the certification required in paragraph (2) thirty days after the Secretary submit a report to the Committee on Science, Space and Technology, and the Committee on Commerce, Science, and Transportation, which describes the circumstances which prevent the certification under paragraph (2) from being complete, remedial actions undertaken, the effects of such circumstances on the deployment and operation of the system, and a justification for proceeding with the program, as appropriate.

Section 202(c)(1) sets an aggregate appropriations cap of \$51,668,000 for all the fiscal years beginning after September 30, 1992, for the complete acquisition and deployment of the Automated Surface Observing System, including specified associated activities. Section 202(c)(2) prohibits the obligation of the funds appropriated under paragraph (1) until the Secretary of Commerce certifies to Congress that system meets technical performance specifications, the system contract is viable, the system software is functional, the system can be fully deployed without further appropriations, and the system will meet its planned deployment schedule. Section 202(c)(3) provides that the funds appropriated under paragraph (1) may be obligated if the Secretary does not provide the certification required in paragraph (2) thirty days after the Secretary submit a report to the Committee on Science, Space and Technology, and the Committee on Commerce, Science, and Transporta-

tion, which describes the circumstances which prevent the certification under paragraph (2) from being complete, remedial actions undertaken, the effects of such circumstances on the deployment and operation of the system, and a justification for proceeding with the program, as appropriate.

Section 203. Public Institution Liaison and Community Preparedness

Section 203 requires the Secretary of Commerce to provide public institution and community preparedness services for at least two-years in each area currently served by a weather office which is closed, consolidated, automated or relocated pursuant to the modernization and restructuring of the National Weather Service.

Section 204. Weather Radar Removal

Section 204(a) requires the National Academy of Sciences to identify areas of the country, if any, for which there is significant doubt that the Secretary of Commerce will be able to make a certification of "no degradation of services" as required by Section 408(b) of P.L. 100-685. Section 204(a) further requires a report of the Comptroller General of the United States within 180 days should Weather Offices be closed as a result of the certification of the Secretary in any of the areas identified by the National Academy of Sciences pursuant to section 204(a).

Section 204(b) amends current law [Section 408(a) of P.L. 100-685] to prohibit the Secretary of Commerce from removing any National Weather Service radar from its current service area until the Secretary can certify that no degradation of weather services to the affected area will result.

Section 203(c) requires the certifications required pursuant to Section 408(b) of Public Law 100-685 be based upon site-specific operational demonstrations of modernized NWS operations, including NEXRAD; that the certifications be initially prepared by the weather service office meteorologist-in-charge; and that the certification include an identification and explanation of any substantive differences between the certification of the meteorologist-in-charge and the Secretary.

TITLE III—NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND
INFORMATION SERVICE

Section 301. Satellite Observing Systems

Section 301(a) authorizes appropriations of \$367,359,000 for fiscal year 1992 to the Secretary of Commerce to enable the National Oceanic and Atmospheric Administration to carry out its satellite observing systems duties. Included among these duties are spacecraft procurement, launch, and associated ground station system changes involving polar-orbiting and geostationary environmental satellites and land remote-sensing satellites, as well as the operation of these satellites.

Section 301(b) specifies that \$17,200,000 are authorized for fiscal year 1992 for the operations of the Land Remote-Sensing (Landsat) Satellite System.

Section 301(c) specifies that \$5,000,000 of the funds authorized in section 301(a) be used for the procurement of long-lead parts necessary for the construction of Landsat 7.

Section 301(d)(1) sets an aggregate cap of \$735,133,000 for all the fiscal years beginning after September 30, 1992, for the complete acquisition and deployment of Geostationary Operational Environmental Satellites (GOES) I, J, K, L, and M, including specified associated activities. Section 301(d)(2) prohibits the obligation of the funds appropriated under paragraph (1) until the Secretary of Commerce certifies to Congress that system meets technical performance specifications, the system contract is viable, the system software is functional, the system can be fully deployed within the funding cap without further appropriations, and the system will meet its plan deployment schedule. Section 301(d)(3) provides that the funds appropriated under paragraph (1) may be obligated if the Secretary does not provide the certification required in paragraph (2) thirty days after the Secretary submits a report to the Committee on Science, Space and Technology, and the Committee on Commerce, Science, and Transportation, which describes the circumstances which prevent the certification under paragraph (2) from being complete, remedial actions undertaken, the effects of such circumstances on the deployment and operation of the system, and a justification for proceeding with the program, as appropriate.

Section 301(e)(1) sets an aggregate funding cap of \$272,758,000 for all the fiscal years beginning after September 30, 1992, for the complete acquisition and deployment of the Polar Orbiting Environmental Satellites I, J, K, L, and M. Section 301(e)(2) prohibits the obligation of the funds appropriated under paragraph (1) until the Secretary of Commerce certifies to Congress that system meets technical performance specifications, the system contract is viable, the system software is functional, the system can be fully deployed without further appropriations, and the system will meet its plan deployment schedule. Section 301(e)(3) provides that the funds appropriated under paragraph (1) may be obligated if the Secretary does not provide the certification required in paragraph (2) thirty days after the Secretary submits a report to the Committee on Science, Space and Technology, and the Committee on Commerce, Science, and Transportation, which describes the circumstances which prevent the certification under paragraph (2) from being complete, remedial actions undertaken, the effects of such circumstances on the deployment and operation of the system, and a justification for proceeding with the program, as appropriate.

Section 302. Environmental Data Management

Section 302 authorizes appropriations of \$35,200,000 for fiscal year 1992 to the Secretary of Commerce to enable the National Oceanic and Atmospheric Administration to carry out its data and information services duties. Such duties include climate data services, ocean data services, geophysical data services, and environmental assessment and information services.

Section 303. Transfer of Landsat Data Archiving Responsibility

Section 303 amends the Land Remote-Sensing Commercialization Act of 1984 to transfer from the Secretary of Commerce to the Sec-

retary of the Interior responsibility for: (1) providing for long-term storage, maintenance, and upgrading of the basic, global, land data set; (2) requesting data needed for the basic data set from a system operator; (3) making data which is in the public domain available to requesting parties; and (4) using existing Government facilities, to the extent practicable, in carrying out these functions.

TITLE IV—BUY AMERICA PROVISIONS

Section 401. Buy America Provisions

Section 401(a) prohibits contract awards made with funds authorized under this act for materials produced or manufactured in a foreign country whose government unfairly maintains significant and persistent discrimination against U.S. products as cited by the President under the 1988 Trade Act.

Section 401(b) prohibits contract awards made with funds authorized under this act to any person found by a court or Federal agency to have fraudulently made use of "made in America" labels.

Section 401(c) authorizes the Secretary to award to a U.S. incorporated firm a contract with funds authorized under this act for the purchase of goods that, under competitive procedures, would be awarded to a foreign firm if the final product will be assembled in the United States; more than 50% of the final product will be domestically produced; and the difference between the two bids is not more than 6 percent. This section does not apply if found not to be in the public interest, to violate national security considerations or are prohibited by the General Agreement on Tariffs and Trade.

TITLE V—TROPICAL CYCLONE RESEARCH PROGRAM

Section 501. Short Title.

Section 501 provides that this title may be cited as the Tropical Cyclone Research Act of 1991.

Section 502. Findings.

Section 502 sets forth Congressional findings related to the title.

Section 503. Establishment of Program.

Section 503 directs the Secretary of Defense and the Secretary of Commerce to establish a five-year joint program, which expands on the plan established in section 201(b) relating to Atlantic tropical cyclones, collecting operational and reconnaissance data, conducting research, and analyzing data on tropical cyclones to assist the forecast and warning program and increase the understanding of the causes and behavior of tropical cyclones.

Section 504 sets forth the responsibilities of each Secretary, and provides for the transfer of data under a joint agreement.

Section 505 directs the Secretaries to jointly develop and submit to the Congress management plans for: (1) the program established by this Act; and (2) continued tropical cyclone surveillance and reconnaissance which will adequately protect the citizens of U.S. coastal areas. Section 505 mandates that the management plan and program: (1) provide for a minimum of the same level and quality

of protection as the current tropical cyclone surveillance and reconnaissance program; and (2) in no way allow any reduction in the level, quality, timeliness, sustainability, and area served of both the existing principal and back-up severe storm reconnaissance and tracking systems.

VI. OVERSIGHT FINDINGS AND RECOMMENDATIONS

Pursuant to Rule XI, Clause 2(I)(3), of the Rules of the House of Representatives, and under the authority of Rule X, Clause 2(b)(1), and Clause 3(f), the results and findings of oversight activities considered by the Committee on Science, Space, and Technology have been adopted and are incorporated in the recommendations found in the present bill and report.

VII. CONGRESSIONAL BUDGET ACT INFORMATION

This bill provides new authorization rather than new budget authority and consequently the provision for section 308(a) of the Congressional Budget Act of 1974 are not applicable.

VIII. CONGRESSIONAL BUDGET OFFICE COST ESTIMATES

Pursuant to Section 403 of the Congressional Budget Act of 1974 and Rule XI, 2(I)(3) of the Rules of the House of Representatives, the report of the Congressional Budget Office follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, May 24, 1991.

Hon. GEORGE E. BROWN, Jr.,
Chairman, Committee on Science, Space and Technology,
U.S. House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.R. 2011, the National Oceanic and Atmospheric Administration Authorization Act of 1991.

This bill would affect direct spending and thus would be subject to pay-as-you-go procedures of Section 252 of the Budget Enforcement Act of 1990 and to the requirements of clause 8 of House Rule XXI. As a result, the estimate required under House Rule XXI also is attached.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER,
Director.

CONGRESSIONAL BUDGET OFFICE—COST ESTIMATE

1. Bill number: H.R. 2011.
2. Bill title: National Oceanic and Atmospheric Administration Authorization Act of 1991.
3. Bill status: Ordered reported by the House Committee on Science, Space, and Technology on May 8, 1991.
4. Bill purpose: H.R. 2011 would authorize appropriations for the National Oceanic and Atmospheric Administration (NOAA). Title I

would authorize appropriations for the National Ocean Service, oceanic and atmospheric research programs, and program support. In addition, Title I would place restrictions on the reprogramming of funds, require a number of reports, and provide the Secretary of Commerce with the authority to acquire property in the Hampton Roads, Virginia area. Title II would authorize appropriations for the National Weather Service for research and systems acquisitions and would set forth a number of requirements regarding weather service activities. Title III would authorize appropriations for the National Environmental Satellite, Data, and Information Service (NESDIS), and would transfer archiving responsibility for land remote-sensing data. Title IV would require NOAA to observe a number of "Buy America" provisions and Title V would establish a Tropical Cyclone Research Program.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1992	1993	1994	1995	1996
Direct Spending:					
Estimated budget authority	18				
Estimated outlays	2	6	6	4	
Authorizations:					
Title I	495				
Title II	518	19	118	63	30
Title III	403	322	67	104	68
Total authorizations	1,416	341	285	167	98
Estimated outlays	850	587	362	286	144

NOTE.—The costs of this bill fall within budget function 300.

Basis of Estimate.—CBO assumes that the full amounts authorized would be appropriated each fiscal year, as shown in the table. The outlay estimates are based on historical spending patterns for these programs. Based on information from NOAA and other research, CBO has estimated costs for sections of the bill for which there is no specified authorization level.

In addition to the \$495 million specifically authorized under Title I, CBO estimates that the various reports required under Title I would result in costs of about \$0.2 million. Also, CBO estimates that the property acquisition authorized in Section 107 would result in costs of about \$18 million. Section 107 grants the Secretary of Commerce authority to enter into a lease-purchase agreement, which would result in direct spending. Thus, CBO's estimate includes the full cost of "acquiring property and improvements" as estimated budget authority for fiscal year 1992, and calculates the estimated outlays for fiscal years 1992 through 1995.

Title II authorizes \$766 million for the National Weather Service; \$518 millions of this total is authorized for fiscal year 1992 and \$249 million is authorized in aggregate amounts for fiscal year 1993 and beyond. The aggregate amounts, authorized for the Next Generation Weather Radar System (NEXRAD) and the Automated Surface Observing Systems (ASOS), would remain available until expended. CBO estimates that the budget authority for these funds would be allocated over four fiscal years. Spending for the

NEXRAD would not begin until fiscal year 1994, while spending for ASOS would begin in fiscal 1993.

CBO's estimate does not include costs for the requirements regarding public institution liaison and community preparedness set forth in Title II, as we estimate that it is unlikely that any of the stations would be closed, consolidated, automated, or relocated until late 1996. Thus, personnel required to fill the liaison position upon commencement of those activities would not be necessary until after fiscal year 1996. CBO estimates that the other activities required under Section 204 would not result in significant costs to the federal government.

Title III authorizes a funding level of \$367 million in fiscal year 1992 for satellite observing systems duties and includes aggregate funding levels for Geostationary Operational Environmental Satellites (Geostat) and Polar Orbiting Environmental Satellites, to remain available from fiscal year 1993 until expended. CBO estimates that the funding for the Geostat would result in budget authority for more than the four fiscal years shown in the table; spending would begin in fiscal 1993. Funding for Polar Satellites would supply only two years of budget authority; spending would begin in fiscal year 1993. CBO expects that the data archiving requirements set forth in Section 303 would not result in significant new costs to the government.

CBO estimates that the Buy America provisions set forth in Title IV and the Tropical Cyclone Research Program authorized in Title V would result in no significant costs to the federal government.

6. Pay-as-you-go considerations: The Budget Enforcement Act of 1990 sets up pay-as-you-go procedures for legislation affecting direct spending or receipts through 1995. CBO estimates that the Section 107 lease-purchase authority of H.R. 2011 would increase outlays by \$18 million for the period of fiscal years 1992 through 1995 as shown in the direct spending part of the table on page 1.

7. Estimated cost to State and local governments: None.

8. Estimate comparison: None.

9. Previous CBO estimate: On May 16, 1991, CBO prepared a cost estimate for H.R. 2130, the National Oceanic and Atmospheric Administration Authorization Act of 1991, as ordered reported by the House Committee on Merchant Marine and Fisheries on May 2, 1991. H.R. 2130 would authorize an estimated \$1.6 billion to NOAA for fiscal year 1992, compared with the \$1.4 billion authorized by H.R. 2011.

10. Estimate prepared by: Patricia A. Conroy.

11. Estimate approved by: C.G. Nuchols for James L. Blum, Assistant Director for Budget Analysis.

The applicable cost estimate of this act for all purposes of sections 252 and 253 of the Balanced Budget and Emergency Deficit Control Act of 1985 shall be as follows:

CONGRESSIONAL BUDGET OFFICE ESTIMATE ¹

(By fiscal year, in millions of dollars)

	1991	1992	1993	1994	1995
Change in outlays	0	2	6	6	4
Change in receipts	(²)	(²)	(²)	(²)	(²)

¹ An estimate of H.R. 2111 as ordered reported by the House Committee on Science, Space and Technology. This estimate was transmitted by the Congressional Budget Office on May 24, 1991.

² Not applicable.

IX. OVERSIGHT FINDINGS AND RECOMMENDATIONS, COMMITTEE ON GOVERNMENT OPERATIONS

No findings or recommendations on oversight activity pursuant to rule X, clause 2(b)(2), and rule XI, clause 2(1)(3)(D), of the Rules of the House of Representatives have been submitted by the Committee on Government Operations for inclusion in this report.

X. EFFECT OF LEGISLATION ON INFLATION

In accordance with rule XI, clause 2(1)(4) of the Rules of the House of Representatives, this legislation is assessed to have no inflationary effect on prices and costs in the operation of the national economy.

XI. CHANGES IN EXISTING LAW MADE BY THIS BILL, AS REPORTED

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italic, existing law in which no change is proposed is shown in roman):

SECTION 408 OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT, FISCAL YEAR 1989

SEC. 408. (a) The Secretary shall not close, consolidate, automate, or relocate any Weather Service Office or Weather Service Forecast Office or remove any *National Weather Service radar (except for the purposes of upgrading such radar on-site)* pursuant to the implementation of the strategic plan required by section 407, except in accordance with this section.

(b) The Secretary may not close, consolidate, automate, or relocate or remove any *National Weather Service radar (except for the purposes of upgrading such radar on-site)* unless the Secretary has certified to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives that such action will not result in any degradation of weather services provided to the affected area. Such certification shall include—

(1) * * *

* * * * *

[(3) evidence, based upon operational demonstration of modernized National Weather Service operations, which supports

the conclusion that no degradation in services will result from such action.】

(3) evidence, based on a site-specific operational demonstration of modernized National Weather Service operations, including the Next Generation Weather Radar, for each office to be closed, consolidated, automated, or relocated, or each National Weather Service radar to be removed (except for the purposes of upgrading such radar on-site), which supports the conclusion that no degradation in services will result from such action.

A certification under this subsection shall be initially prepared by the meteorologist-in-charge at the office to be closed, consolidated, automated, or relocated, and the Secretary shall identify and explain any substantive differences between the certification as prepared by the meteorologist-in-charge and as submitted to the committees under this subsection.

LAND REMOTE-SENSING COMMERCIALIZATION ACT OF 1984

* * * * *

TITLE IV—LICENSING OF PRIVATE REMOTE-SENSING SPACE SYSTEMS

* * * * *

CONDITIONS FOR OPERATION

SEC. 402. (a) * * *

(a) Any license issued pursuant to this title shall specify, at a minimum, that the licensee shall comply with all of the requirements of this Act and shall—

(1) * * *

* * * * *

(4) promptly make available all unenhanced data which the Secretary of the Interior may request pursuant to section 602;

* * * * *

TITLE VI—GENERAL PROVISIONS

* * * * *

ARCHIVING OF DATA

SEC. 602. (a) * * *

(b) The Secretary of the Interior shall provide for long-term storage, maintenance, and upgrading of a basic, global, land remote-sensing data set (hereinafter referred to as the “basic data set”) and shall follow reasonable archival practices to assure proper storage and preservation of the basic data set and timely access for parties requesting data. The basic data set which the Secretary of the Interior assembles in the Government archive shall remain distinct from any inventory of data which a system operator may maintain for sales and for other purposes.

(c) In determining the initial content of, or in upgrading, the basic data set, the Secretary of the Interior shall—

(1) * * *

* * * * *

(d) Subject to the availability of appropriations, the Secretary of *the Interior* shall request data needed for the basic data set and pay to the providing system operator reasonable costs for reproduction and transmission. A system operator shall promptly make requested data available in a form suitable for processing for archiving.

* * * * *

(f) After the expiration of such exclusive right to sell, or after relinquishment of such right, the data provided to the United States remote-sensing data archive shall be in the public domain and shall be made available to requesting parties by the Secretary of *the Interior* at prices reflecting reasonable costs of reproduction and transmittal.

(g) In carrying out the functions of this section, the Secretary of *the Interior* shall, to the extent practicable and as provided in advance by appropriation Acts, use existing Government facilities.

(h) *In carrying out the functions of this section, the Secretary of the Interior shall consult with the Secretary to ensure that archiving activities are consistent with the terms and conditions of any contract or agreement entered into under title II, III, or V of this Act and with any license issued under title IV of this Act.*

* * * * *

XII. ADDITIONAL VIEWS

ADDITIONAL VIEWS OF THE HON. JOAN KELLY HORN

NATIONAL WEATHER SERVICE "INFRASTRUCTURE"

The National Weather Service (NWS), the federal agency responsible for providing the public with warnings of potentially hazardous weather-related effects, needs up-to-date equipment to fulfill its mission in this area. In order to issue timely warnings of severe storms, tornadoes and floods, the NWS must have the radar and satellite data, the computer capacity, and the technical expertise to process and disseminate to the public vital meteorological information. It needs many of these same factors to adequately monitor the development of coastal storms, such as hurricanes. For this reason, the NWS infrastructure, the weather satellites, radar and other equipment, is essential to the proper functioning of the service.

Over the past decade or more, this NWS infrastructure of equipment, much of it dating from the 1950's and 1960's, has degraded to the point where the NWS's ability to perform its functions of timely hazardous weather forecasting is in question. This was the reason that a strategic modernization plan was recommended.

Unfortunately, this plan is behind schedule. While there are several reasons for this, one major reason is the lack of planning for the future exhibited by the Office of Management and Budget (OMB) over the past decade. When others determined that a new generation of radars using Doppler technology was required, OMB said it wasn't necessary, setting back the program a year or more while the fruitless search for other technologies to perform the same functions were carried out. Similarly, OMB delayed the Advanced Weather Interactive Processing System (AWIPS), while looking for budgetary savings in all but its own politically favored programs. These examples of "pennywise, pound foolish" budget policy have resulted in a NWS that is less able to issue warnings to protect the public from injuries and property damage. For example, the NEXRAD doppler radar is a critical element in the forecasting of severe weather in the U.S., particularly severe thunderstorms with downburst winds and tornadoes. Yet none of these systems is currently fully integrated into a weather station.

The Midwest, as well as many parts of the nation, suffers from the effects of severe storms. Loss of life, injuries, and property damage in the millions of dollars result each year from weather-related causes. In my own state of Missouri, there were 45 statewide injuries due to tornadoes and high winds in the past year, frequently among individuals in exposed locations. In Charles County alone, on November 27, 1990, 30 people were injured during a severe storm and resulting tornado. This storm system produced tornadoes and damaging winds in many areas statewide from

Charles County to Boone County. Additional storms in other states have taken an even larger toll.

There is no doubt that increased lead times would allow people to take shelter before the full force of these storms caught them exposed. This is where Doppler radar could make a most valuable contribution. By increasing average lead times from 3 minutes to as much as 30 minutes, it would allow people sufficient time to protect themselves from the effects of these storms. There is no way to determine how many of the injuries and fatalities suffered by communities in the past year could have been avoided if some NEXRAD radar had been operational in sites across the U.S. There is little doubt that some would have been prevented.

Although not directly related to the NWS mission, it should be noted that the absence of these NEXRAD radars also means that the FAA is unable to use NEXRAD to protect civilian aviation from storm hazards. It is well known that Doppler radar can detect aviation hazards such as downdrafts and wind shear. That the airlines have had accidents caused by such weather occurrences only underscores the current lack of Doppler radar. The delay in installing these radars is leaving millions of air passengers nationwide in potential jeopardy, including passengers at Lambert Airport in St. Louis. Both the FAA and U.S. Air Force are dependent on the installation of NEXRAD for their Doppler radar.

Another troubling aspect of NWS operation is the fact that the NWS is operating with only one weather satellite (Geostationary Operation Environmental Satellite-GOES) in orbit. Since the mid-1970's, two satellites have been utilized to fully monitor the continental U.S. and surrounding waters for storm and weather development. In 1990, one of these satellites failed, leaving the U.S. without adequate satellite coverage of storm development in the Atlantic and Pacific oceans. Furthermore, this remaining satellite is nearing the end of its design life and is expected to fail before replacement GOES-NEXT satellites are launched. This would leave the NWS with no geostationary weather satellites. We would be forced to ask the Europeans to reposition one of their satellites to cover the East Coast area, while using our polar orbiting satellites to provide (vastly inferior) coverage for the rest of the nation and the Pacific Ocean and Gulf of Mexico. For a nation which is world-renowned for its satellite and space technology, this is an affront to our preeminence.

I want the record to show that I, and this committee, support efforts to insure that the NWS has the technological infrastructure it needs to fulfill its mission to provide our citizens with the most timely weather hazard warnings possible.

JOAN KELLY HORN.

U.S. CONGRESS,
HOUSE OF REPRESENTATIVES,
Washington, DC, August 1, 1991.

Hon. GEORGE E. BROWN, Jr.,
Chairman, Committee on Science, Space, and Technology,
U.S. House of Representatives.

DEAR MR. CHAIRMAN: Attached are the Additional Views which we are filing for the committee report on H.R. 2011, the National Oceanographic and Atmospheric Administration Authorization Act of 1991.

Thank you very much for working with us towards a bill which will ensure that all parts of this country will receive accurate and timely weather services.

Sincerely,

CARL C. PERKINS.
RICHARD H. STALLINGS.
RICK BOUCHER.
DAVID R. NAGLE.
TERRY L. BRUCE.
JOE BARTON.

SECTION 203—PUBLIC INSTITUTION LIAISON AND COMMUNITY PREPAREDNESS

Section 203 requires the Secretary of Commerce to provide personnel for each area currently (as of enactment) receiving public institution liaison and community preparedness services from a Weather Service Office (WSO), a Weather Service Meteorological Observatory (WSMO), or an Agricultural Weather Service Center (AWSC). The number of personnel provided to each such area shall be sufficient to prevent any degradation in the level of public institution liaison and community preparedness services to the affected area. As weather is not a 9-5 phenomenon, "the level of * * * services" inherently must include the hours during which such services are offered.

We also want to stress that public institution liaison and community preparedness are among the Weather Service's activities least suited for consolidation as well as automation. Proper performance of these duties requires an intimate knowledge of the local terrain, populace, public leaders, and institutions. The human element is also vital to maintaining disaster-assistance preparedness and to providing prompt, accurate information to local officials and industries. In rural communities the people in charge of school buses are dependent upon these communications to ensure the safety of schoolchildren from the dangers of inclement weather such as icy roads.

SECTION 204—WEATHER RADAR REMOVAL

We do not wish to impugn the integrity of the National Weather Service by mandating an outside study in Section 204(a); on the other hand, it does recognize that the NWS personnel involved in developing and deploying NEXRAD will be incapable of viewing NEXRAD with sufficient skepticism. In the words of the National

Research Council's Committee on the Modernization of the National Weather Service, "[T]o increase the credibility of the certification process in the eyes of user groups and Congress, it may be appropriate, at some stage, to involve an independent evaluation of the statistical and analytical measures developed during the initial operations of the WFOs as applied to each specific certification."

Section 204(c)(2) tightens the certification requirements by mandating that the Secretary's certifications be based upon a site-specific operational demonstration of the new technology and personnel. The Weather Service should conduct each such operational demonstration for at least one year so as to evaluate the modernized operation's performance through the full range of climatological variation typically experienced in the affected area. Soon-to-be fringe areas across the country have every right to demand proof that the deployment of improved radars will not, in fact, provide them with less accurate forecasts.

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